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**ENVIRONMENTAL SCIENCE
AND ENGINEERING, INC.**

February 19, 1986

ESE No. 85 275 1000

Ms. Cherryl Barnett
Department of the Navy
Atlantic Division, Code 1143
Naval Facilities Engineering Command
Building IIA, Gilbert Street
Norfolk, Virginia 23511

RE: Contract No. N62740-85-B-7972, Confirmation Study, U.S. Naval Complex,
Puerto Rico

Dear Ms. Barnett:

Enclosed is the progress report for the period of January 16, 1986
through February 15, 1986.

Please do not hesitate to call me if you have any questions regarding
this report.

Sincerely,



Russell V. Bowen, P.E.
Project Manager

RVB/njb

enclosure

cc: Lou Bilello, ESE
Lisa Bare, ESE
Bill Coulombe, ESE

MONTHLY PROGRESS REPORT

PERIOD 1/16/86 THROUGH 2/15/86

U.S. NAVAL COMPLEX, PUERTO RICO CONFIRMATION STUDY

WORK ACCOMPLISHED

1. Completed laboratory analyses for those samples shown in Table 1, and continued analyses of remaining samples. A brief discussion of the analytical data is presented in Attachment 1.
2. Collected surface water, sediment, and soil samples at Sites 2 and 13.
3. Collected ground water samples from all the monitor wells at Site 10 and from monitor well 12 GW02 at Site 12.
4. Installed the ground water monitoring wells at Site 13 and the three remaining wells at Site 5 which required land clearing.
5. Prepared rough draft of Performance Work Statement (PWS) for drum and gas cylinder removal operations at Sites 6 (NAVSTA Roosevelt Roads), 7 (NAVSTA Roosevelt Roads), 10, 11, and 16.

PROBLEMS ENCOUNTERED

As described in the QA/QC Progress Report for January 1986, some analytical holding times were exceeded requiring the resampling of some sample locations. The sample locations requiring resampling are identified in the QA/QC Progress Report.

PERCENTAGE OF WORK COMPLETED

Approximately 65 percent.

PLANS FOR FOLLOWING MONTH

1. Complete all monitor well installation.
2. Resample the sample locations identified in the QA/QC Progress Report for January 1986.

3. Continue laboratory analyses of samples.
4. Complete PWS for the drum and gas cylinder removal operations and forward the PWS to the EIC.

CONFIRMATION OF ANY CLARIFICATIONS OR TECHNICAL GUIDANCE

The location of two of the monitor wells at Site 12 were modified due to the presence of rock within 5 feet of the ground surface. The attached figure shows the new well locations.

Table 1. Confirmation Study - U.S. Naval Complex, Puerto Rico -
Laboratory Analyses Completed as of 1/31/86

<u>Site</u>	<u>Type of Sample*</u>	<u>Analysis</u>
NAVSTA	Roosevelt Roads	
1	SE	percent moisture
2	SE, SW, S	pH, lead, chromium, percent moisture
5	SW	pH, mercury, priority pollutants
	SE	pH, percent moisture, chromium, lead
6	SW	pH, mercury
	SE	pH, percent moisture, lead, chromium
	S	pH, percent moisture, lead, chromium, priority pollutants
7	S	percent moisture, oil and grease
8	SE	percent moisture
	SW	lead
9	SE	percent moisture
	SW	PCB
10	GW	pH
12	SW	pH, oil and grease, EDB, lead
	SE	percent moisture
13	SW	pH
14	SW	pH, oil and grease, EDB, lead, priority pollutants (5 samples only)
	SE	pH, percent moisture, oil and grease, lead
15	S	percent moisture
16	S	percent moisture, oil and grease
18	SE	percent moisture
	S	percent moisture
	SW	pesticides

NSGA Sabana Seca

6	SE	percent moisture
	S	percent moisture
7	SW	pH, mercury, lead, chromium, pesticides, PCB's, priority pollutants

*SW = surface water
SE = sediment
S = soil
GW = ground water

ATTACHMENT 1

PRELIMINARY EVALUATION OF DATA AVAILABLE AS OF 1/31/86

CONFIRMATION STUDY, U.S. NAVAL COMPLEX, PUERTO RICO

NAVSTA ROOSEVELT ROADS

SITE 2, MANGROVE DISPOSAL SITE, VIEQUES

Surface water samples collected do not violate the EPA water quality criteria for lead or chromium.

SITE 5, ARMY CREMATOR DISPOSAL AREA

The EPA water quality criteria for pH coastal waters in the vicinity of Site 5 ranges from 7.3 to 8.5, except when caused by natural phenomena. A pH of 6.93 was recorded in one of the surface water samples (Sample 5SW1). The sediment samples collected show lead concentrations ranging from 12.5 to 76.4 ug/g (dry) and chromium concentrations ranging from 21.9 to 54.1 ug/g (dry). The four of the five surface water samples collected show trace concentrations of dioctyl pathalate ranging from 1 to 7 ug/L.

SITE 6, LANGLEY DRIVE DISPOSAL SITE

Available water quality data for pH and mercury do not indicate violations of existing EPA water quality criteria. The sediment samples collected show trace lead concentrations of <9.0 ug/g (dry) and chromium concentrations ranging from 6.71 to 18.0 ug/g (dry). The three surface water samples collected violate the EPA water quality criteria for arsenic (2.2 ng/l) with concentrations of 126, 114, and 65.1 ug/L. The soil samples collected have lead concentrations ranging from 3038 ug/g (dry) to <7.0 ug/g (dry), chromium concentrations ranging from 78.2 ug/g (dry) to 16.9 ug/g (dry), arsenic from 134 to <2.63 ug/g (dry), berillium from 14.9 to <0.221 ug/g (dry), cadmium from 2.88 to <0.323 ug/g (dry), copper from 823 to 22.6 ug/g (dry), mercury from 1.54 to <0.041 ug/g (dry), nickel from 165 to 5.07 ug/g (dry), selenium from 426 to <2.63 mg/g (dry), and zinc from 949 to 28.3 ug/g (dry). In addition samples R6S5A, R6S6A, R657A, R6S8A, R6S14A, and R6S15A contained trace amounts of various organic priority pollutants.

SITE 7, STATION LANDFILL

Soil samples taken in the drum ditch area show oil and grease contamination at levels ranging from 80 to 190 micrograms per gram (ug/g) dry weight basis.

SITE 8, DRONE WASHDOWN

The three surface water samples collected do not exceed the EPA water quality criteria for lead.

SITE 9, PCB DISPOSAL, DRY DOCK AREA

The four surface water samples collected all contain less than 0.5 ug/l of PCBs.

SITE 10, BUILDING 25 STORAGE AREA

The two ground water samples collected had pH values of 6.16 and 7.30.

SITE 12, TWO WAY ROAD FUEL FARM

An oil and grease concentration of 0.4 mg/L was detected in the surface water sample collected at this site. Lead was not detected in this surface water sample.

SITE 13, TANKS 212 TO 217

The six surface water samples collected do not exceed the EPA water quality criteria for pH.

SITE 14, ENSENADA HONDA SHORELINE AND MANGROVES

Eight of the twelve surface water samples show oil and grease contamination with concentrations ranging from 0.3 to 2.0 mg/l.

All twelve sediment samples collected at this site show oil and grease contamination at concentrations ranging from 112 to 2,083 ug/g, dry weight basis.

SITE 16, OLD POWER PLANT, BUILDING 38

All nine soil samples collected at Site 16 show oil and grease contamination ranging from 221 to 6,348 ug/g, dry weight basis.

SITE 18, PEST CONTROL SHOP

Chlordane was the only pesticide detected in both surface water samples collected at this site. Both concentrations were less than 1/ug/L.

NSGA SABANA SECA

SITE 7, LEACHATE PONDING AREA

Mercury, lead, PCBs, and pesticides were not detected in the surface water sample collected at Site 7, and the pH (7.77) also did not indicate contamination. In addition, the concentrations of total chromium, total cadmium, and total zinc detected in the surface water sample do not violate EPA water quality criteria. However, the total nickel concentration of 48.9 ug/L exceeds the EPA water quality criterion for nickel (13.4ug/L), and a Bis (2-ETH'HEX') PHTH concentration of 8.84 ug/L was detected in this sample. The sediment sample collected shows concentrations of 116 ug/g (dry) lead and 126 ug/g (dry) chromium.

